

REMARKS

Claims 3, 15, 17, 28, 32, 34-40, 43-47, 50-55 and 58-75 are pending in this application, with claims 3, 36, 37, 38, 61 and 69 being independent. Claims 19, 25, 41-42, 48, 49, 56 and 57 have been canceled in this amendment, and claims 1, 2, 4-14, 16, 18, 20-24, 26, 27, 29-31 and 33 were previously canceled. Claims 3, 32, 36-38, 59 and 60 have been amended, and claims 61-75 have been added. The amendments to claims 3 and 36-38 involve incorporating features from cancelled dependent claims 19, 25, 41, 42, 48, 49, 56 and 57. Support for the new claims can be found in the specification, for example, in FIGS. 1, 2, 12, 14A, 15A, the related description, and in paragraphs [0146] and [0154] of the publication of the current application (U.S. Publication No. 2005/0012686 A1). No new matter has been presented.

Claim Rejections - 35 USC § 102

Claims 36-39, 43, 46, 50 and 58 have been rejected under 35 U.S.C. 102(b) as being anticipated over Koyama (U.S. Patent Pub. No. 2001/0002703). Applicants request reconsideration and withdrawal of the rejection at least because Koyama fails to describe or suggest that “the first transistor has a channel length longer than a channel width, and the second transistor has a channel length equal to or shorter than a channel width,” and that “a ratio of the channel length to the channel width of the first transistor is 5 or more,” as recited in claims 36-38.

Koyama relates to an electroluminescent display that includes a pixel portion 101 in which pixels 104 are arranged in matrix form (Koyama: FIGS. 1, 3, paragraph [0106]). FIG. 3 is reproduced below.

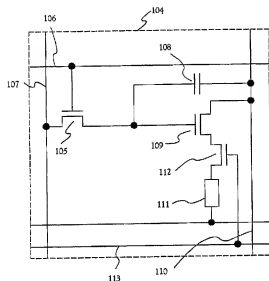


FIG. 3

The pixel portion 101 includes power source control lines C1 to Cn, all of which are connected to an external switch 117 (Koyama: FIG. 2, paragraph [0115]). Within a pixel 104, a gate electrode of a power source controlling transistor 112 (which the rejection equates with the recited first transistor) is connected to a power source control line 113 (which the rejection equates with the recited second power line), and either the source or the drain of the transistor 112 is connected to an electroluminescent (EL) element 111 (Koyama: FIG. 3, paragraphs [0113]-[0117]). One of a source region and a drain region of the EL driving TFT 109 (which the rejection equates with the recited second transistor) is connected to a power source supply line 110 (which the rejection equates with the recited first power line) that is one of the power source supply lines (V1 to Vn), and the other is connected to a source region or a drain region of the

power source controlling TFT 112 (Koyama: paragraph [0117]). The power source control line 113 is one of the power source control lines C1 to Cn (Koyama: paragraph [0117]).

Independent claims 36-38 incorporate features from cancelled dependent claims 41, 42, 48, 49, 56 and 57. In rejecting claims 41, 42, 48, 49, 56 and 57 under 35 U.S.C. 103, the Office Action states that Koyama does not explicitly describe or suggest these features (i.e., that "the first transistor has a channel length longer than a channel width, and the second transistor has a channel length equal to or shorter than a channel width," and that "a ratio of the channel length to the channel width of the first transistor is 5 or more" (Office Action: page 4, last paragraph), but asserts that, at the time the invention was made, it would have been an obvious matter of design choice to a person of ordinary skill in the art to modify the teachings of Koyama such that the first transistor and second transistor had channel widths/lengths as claimed because applicants allegedly have not disclosed that such a specific transistor channel length/width provides an advantage, is used for a particular purpose, or solves a stated problem.

However, the applicants have disclosed in the specification that such a specific transistor channel length/width provides an advantage, is used for a particular purpose, or solves a stated problem. For example, these features are described in the specification, as presented below.

Further, an L of the driving transistor 102 may be longer than a W thereof, and an L of the current control transistor 103 may be equal to or shorter than a W thereof. More preferably, a ratio of the L of the driving transistor 102 to the W thereof may be 5 or more. Also, when $L1/W1: L2/W2=X:1$ holds (wherein, a channel length of the driving transistor 102, a channel width of the driving transistor 102, a channel length of the current control transistor 103 and a channel width of the current control transistor 103 are represented by L1, W1, L2, and W2), it is preferable to keep X in the range of 5 to 6,000. For instance, $L1/W1=500\text{ }\mu\text{m}/3\text{ }\mu\text{m}$, and $L2/W2=3\text{ }\mu\text{m}/100\text{ }\mu\text{m}$. (Paragraph [0048] in the publication of the current application, U.S. Publication No. 2005/0012686 A1, emphasis added)

The specification also describes how the recited technical features provide advantages, are used or a particular purpose, and/or solves a stated problem, as presented below:

It is possible to avoid the influences to be otherwise exerted on the current flowing to the light-emitting element without increasing the capacitance of the capacitance element provided between the gate and the source of the current control transistor and suppressing an off-current of the switching transistor. Further, the current is free from the influence of stray capacitance at the gate of

the current control transistor. **Therefore, it is possible to reduce the variation factors to greatly increase image quality. Also, since it is unnecessary to suppress the off-current of the switching transistor, it is possible to simplify a transistor manufacturing process to contribute to a cost reduction and an improvement in yield.** (Paragraphs [0019], [0020] in the publication of the current application, U.S. Publication No. 2005/0012686 A1, emphasis added).

With the above-described constitution, the current control transistor 103 is operated in the linear area to achieve a small source/drain voltage V_{ds} of the current control transistor 103, and a slight fluctuation in the gate/source voltage V_{gs} of the current control transistor 103 does not influence on the current flowing to the light-emitting element 104. The current flowing to the light-emitting element 104 is decided by the driving transistor 102 operating in the saturation area. **Therefore, it is unnecessary to increase the capacitance of the capacitance element 105 provided between the gate and the source of the current control transistor 103 nor to suppress the off-current of the switching transistor 101 to keep the current flowing to the light-emitting element 104 free from adverse effects. Also, the current flowing to the light-emitting element 104 is free from adverse effects of stray capacitance at the gate of the current control transistor 103. Since the factors for fluctuation is thus reduced, it is possible to greatly increase image quality.** (Paragraph [0048] in the publication of the current application, U.S. Publication No. 2005/0012686 A1, emphasis added).

For at least these reasons, it would not have been an obvious matter of design choice to include transistors having the characteristics recited in the claims, and the rejection of independent claims 36-38, and their dependent claims, should be withdrawn.

In addition, the Office asserts that one of ordinary skill in the art would have expected applicants' invention to perform equally well with any commercially available transistor channel width/length because both would perform equally well in functioning as switches in a pixel of a display device. However, the first transistor would not perform in functioning as switch because "a voltage between the gate electrode and the source of the first transistor is constantly fixed," as recited in claims 36-38, and an operational switch would require that the voltage between the gate electrode and the source of the switch is not constantly fixed. This is another reason to withdraw the rejection of independent claims 36-38.

Furthermore, in *KSR International Co. v. Teleflex Inc.*, the Supreme Court emphasized that there must be a factual basis for an obviousness rejection under 35 U.S.C. § 103(a) and that

this factual basis must be made explicit. See *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007). Furthermore, quoting *In re Kahn*, the Supreme Court explained that “[r]ejections on obviousness cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *Id.* Here, the Office has failed to offer any factual basis in support of the assertion that one skilled in the art would have known to design the first and second transistors in the manner recited.

Since the Office is asserting that factual basis is based upon the knowledge of one of ordinary skill in the art, the Official Notice with respect to the Office's assertion of the claimed features is being traversed. The cited reference fails to explicitly state how one skilled in the art could arrive at this conclusion and no documentary evidence has been provided by the Office to support this assertion. As stated in MPEP 2144.03, “Official Notice unsupported by documentary evidence should only be taken by the Examiner where the facts asserted to be well-known, or to be common knowledge in the art are capable of instant and unquestionable demonstration as being well-known.” “It is never appropriate to rely solely on common knowledge in the art without evidentiary support in the record as the principal evidence upon which a rejection was based.” See *Zurko*, 258 F.3d at 1386, 59 USPQ2d at 1697; *Ahlert*, 424 F.2d at 1092, 165 USPQ 421. (MPEP 2144.03) “If the examiner is relying on personal knowledge to support the finding of what is known in the art, the examiner must provide an affidavit or declaration setting forth specific factual statements and explanation to support the finding.” See 37 CFR 1.104(d)(2) (MPEP 2144.03). No such clear factual statements and supporting explanations were provided in the Office Action, and the Official Notice in the suggested combination is improper. This burden has not been met by the Office for each of the rejected claims.

For at least these reasons, the rejection of independent claims 36-38, and dependent claims 39, 43, 46, 50 and 58, should be withdrawn.

Claim Rejections - 35 USC § 103

Claims 44, 45, 51-54, 59 and 60, which depend from claims 36-38, have been rejected under 35 U.S.C. 103(a) as being unpatentable over Koyama. Applicants request reconsideration

and withdrawal of the rejection of dependent claims 44, 45, 51-54, 59 and 60 for the reasons discussed above with respect to claims 36-38.

Claims 40, 47 and 55, which depend from claims 36-38, have been rejected under 35 U.S.C. 103(a) as being unpatentable over Koyama in view of Yamazaki (U.S. Patent No. 6,207,969). Applicants request reconsideration and withdrawal of this rejection for the reasons discussed above with respect to claims 36-38 and because Yamazaki, which is cited as teaching "a depletion type transistor," fails to describe or suggest the features of claims 36-38 that, as discussed above, are not described or suggested by Koyama.

Claims 3, 15, 28, 32, 34 and 35 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Koyama in view of Abe (U.S. Patent No. 7,209,101) and Official Notice. The Office Action acknowledges that neither Koyama nor Abe describes or suggests "a fourth transistor for forcing the light-emitting element into a non-emission state irrelevant from the video signal," and takes Official Notice that one skilled in the art would have added the fourth switch, according to Koyama, and would have used a transistor, according to Abe. For the sake of argument, even if the Official Notice is correct with respect to these features, which the applicants do not concede, neither Koyama nor Abe describes or suggests the features described above with respect to claims 36-38 that are similar to features of claim 3, which recites that "the first transistor has a channel length longer than a channel width, and the second transistor has a channel length equal to or shorter than a channel width," and that "a ratio of the channel length to the channel width of the first transistor is 5 or more." For at least these reasons, the rejection of independent claim 3, and dependent claims 15, 28, 32, 34 and 35, should be withdrawn.

Claim 17, which depends from claim 3, has been rejected under 35 U.S.C. 103(a) as being unpatentable over Koyama in view of Abe and Yamazaki. Applicants request reconsideration and withdrawal of this rejection for the reasons discussed above with respect to claim 3 and because Yamazaki, as discussed above, does not remedy the failure of Koyama and Abe to describe or suggest the noted features of independent claim 3.

Claims 61-75 have been added, and are allowable over the cited references at least because independent claims 61 and 69 recite features similar to those discussed above with respect to independent claims 3 and 36-38.

All claims are in condition for allowance.


Conclusion

It is believed that all of the pending issues have been addressed. However, the absence of a reply to a specific rejection, issue or comment does not signify agreement with or concession of that rejection, issue or comment. In addition, because the arguments made above may not be exhaustive, there may be reasons for patentability of any or all pending claims (or other claims) that have not been expressed. Finally, nothing in this reply should be construed as an intent to concede any issue with regard to any claim, except as specifically stated in this reply, and the amendment of any claim does not necessarily signify concession of unpatentability of the claim prior to its amendment.

Fees in the amount of \$810 for the Request for Continued Examination, \$130 for a One-Month Extension of Time, \$364 for excess claims, and \$220 for excess independent claims are being paid concurrently herewith on the Electronic Filing System (EFS) by way of Deposit Account authorization. No other fees are believed due. Please apply any charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,

Date: May 18, 2010


Dwight U. Thompson
Reg. No. 53,688

Fish & Richardson P.C.
1425 K Street, N.W.
11th Floor
Washington, DC 20005-3500
Telephone: (202) 783-5070
Facsimile: (877) 769-7945